CLAIMS

1. (Cancelled)

2. (Cancelled)

3. (Cancelled)

4. (Cancelled)

5. (Cancelled)

6. (Cancelled)

7. (Cancelled)

8. (Cancelled)

9. (Cancelled)

10. (Cancelled)

11. (Cancelled)

12. (Cancelled)

13. (Cancelled)

14. (Cancelled)

15. (Cancelled)

16. (Cancelled)

17. (Cancelled)

18. (Cancelled)

19. (Cancelled)

20. (Cancelled)

21. (New) A device for sensing presence and motion of a body in an interaction zone, comprising:

a sensor positioned to pick up electrical fields existing in the interaction zone and providing an output voltage signal representative of the electrical fields sensed;

a first stage buffer amplifier having an input and an output;

a high pass filter connecting the output voltage signal from the sensor to the input of the first stage buffer amplifier;

a second stage amplifier having an input and an output;

a low pass filter connecting the output of the first stage buffer amplifier to the input of the second stage amplifier;

wherein the output of the second stage amplifier is a signal representative of the electrical fields sensed by the sensor within a desired range of frequencies.

22. (New) A device for sensing presence and motion of a body in an interaction zone, according to Claim 21, wherein the sensor is configured to have electrical characteristics of an electric source in series with a capacitor.

23. (New) A device for sensing presence and motion of a body in an interaction zone, according to Claim 21, wherein the body in the interaction zone creates a capacitance electrically in parallel with the sensor, the amount of capacitance created by a particular body depending upon the position of the body in the interaction zone, the closer the body in the interaction zone to the sensor, the greater the capacitance created.

24. (New) A device for sensing presence and motion of a body in an interaction zone, according to Claim 23, wherein the capacitance in the interaction zone decreases the output voltage signal of

the sensor, the amount of decrease in the output voltage signal depending up the amount of capacitance created which is dependent upon the position of the body in the interaction zone.

25. (New) A device for sensing presence and motion of a body in an interaction zone, according to Claim 24, wherein the sensor senses a background electric field in the interaction zone.

26. (New) A device for sensing presence and motion of a body in an interaction zone, according to Claim 25, wherein the background electric field has a voltage and a frequency, and wherein the first stage amplifier has an input impedance high enough to preserve the output voltage signal from the sensor and to keep the sensor floating at the voltage of the background electric field, but small enough to keep the corner frequency of the high pass filter near the frequency of the background electric field.

27. (New) A device for sensing presence and motion of a body in an interaction zone, according to Claim 26, wherein the capacitance created by the body in the interaction zone is electrically a part of the high pass filter, wherein the high pass filter has a corner point at a particular frequency, wherein an increase in the capacitance shifts the corner point lower, and wherein sensitivity of the device at the frequency of the background electric field increases as the corner point decreases.

28. (New) A device for sensing presence and motion of a body in an interaction zone, according to Claim 27, wherein the background electric field is an A.C. background noise field of between about fifty and about sixty hertz created by power lines in the vicinity of the sensor.

29. (New) A device for sensing presence and motion of a body in an interaction zone, according to Claim 28, wherein the corner frequency of the low pass filter is below fifty hertz.

30. (New) A device for sensing presence and motion of a body in an interaction zone, according to Claim 22, wherein the body in the interaction zone acts as an electric source to increase the output voltage signal of the sensor.

31. (New) A device for sensing presence and motion of a body in an interaction zone, according to Claim 21, wherein the device is a part of a control system for an electrical apparatus and the output of the second stage amplifier is connected to the control system whereby a body motion in the interaction zone at least partially controls the electrical apparatus.

32. (New) A device for sensing presence and motion of a body in an interaction zone, according to Claim 31, wherein the control system includes at least one pair of related sensors wherein the system determines motion of the body along an axis between the pair of related sensors.

33. (New) A device for sensing presence and motion of a body in an interaction zone, according to Claim 32, wherein two pairs of related sensors are used to determine motion of the body in two dimensions in the interaction zone.

34. (New) A device for sensing presence and motion of a body in an interaction zone, according to Claim 33, wherein three pairs of related sensors are used to determine motion of the body in three dimensions in the interaction zone.

35. (New) A device for sensing presence and motion of a body in an interaction zone, according to Claim 31, wherein the electrical apparatus to be controlled is a computer including a display device, and wherein the device sensor is part of the computer display device.

36. (New) A method for sensing presence and motion of a body in an interaction zone, comprising the steps of:

positioning a sensor to pick up electrical fields existing in the interaction zone and to provide an output voltage signal representative of the electrical fields sensed, the electrical fields sensed including a background electrical field of a particular frequency;

eliminating output voltage signal components below a predetermined frequency;

thereafter eliminating output voltage signal components above a predetermined frequency;

amplifying the resultant signal to provide a processed output signal representative of the electrical fields sensed by the sensor within a desired range of frequencies at a particular time; and

comparing the processed output signal representative of the electrical fields sensed by the sensor within a desired range of frequencies at a particular time with a processed output signal obtained for the background electrical field when no body is present in the interaction zone, differences in such signals indicating presence and motion of a body in the interaction zone.

37. (New) A method for sensing presence and motion of a body in an interaction zone according to Claim 36, wherein the background electrical field of a particular frequency is an A.C. background noise field of between about fifty hertz and about sixty hertz created by power lines in the vicinity of the sensor.

38. (New) A method of controlling electrical apparatus by a body gesture within an interaction zone, comprising the steps of:

positioning a sensor to pick up electrical fields existing in the interaction zone and to provide an output voltage signal representative of the electrical fields sensed, the electrical fields sensed including a background electrical field of a particular frequency;

eliminating output voltage signal components below a predetermined frequency;

thereafter eliminating output voltage signal components above a predetermined frequency;

amplifying the resultant signal to provide a processed output signal representative of the electrical fields sensed by the sensor within a desired range of frequencies at a particular time;

performing a particular body gesture in the interaction zone and obtaining a plurality of consecutive processed output signals over a particular period of time representing the particular body gesture to create a predefined body gesture signal representative of the particular body gesture;

monitoring further processed output signals over monitoring periods of time;

comparing the monitored processed output signals with the predefined body gesture signal to determine if the predefined body signal is performed and providing an occurrence signal if the gesture is performed; and

using the gesture signal to control the electrical apparatus.

39. (New) A method of controlling electrical apparatus by a body gesture within an interaction zone, according to Claim 38, wherein the electrical apparatus to be controlled is an apparatus having a display device, and wherein the sensor is part of the display device to create an interaction zone adjacent the display device.

40. (New) A method of controlling electrical apparatus by a body gesture within an interaction zone, according to Claim 39, wherein the step of positioning a sensor to pick up electrical fields existing in the interaction zone and to provide an output voltage signal representative of the electrical fields sensed includes the step of positing at least a pair of related sensors to pick up electrical fields existing in the interaction zone and to provide an output voltage signal representative of the electrical fields sensed by the at least one related pair of sensors representative of the motion of the body along an axis between the pair of related sensors.